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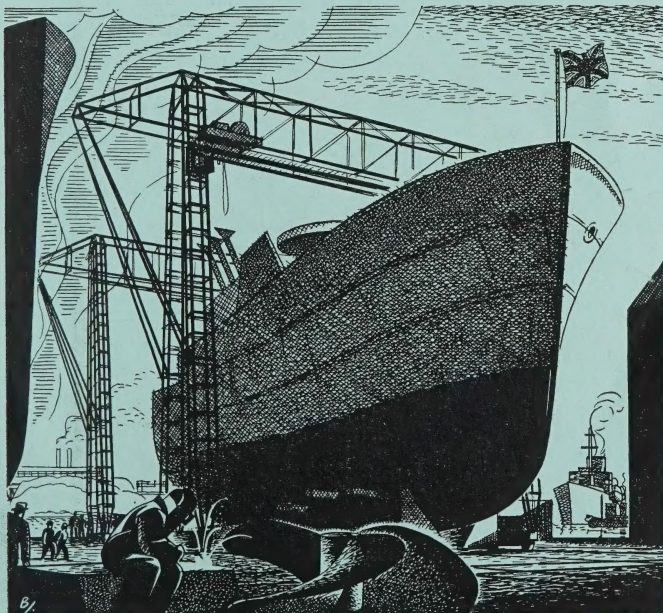


# CANADA AT WAR

No. 17

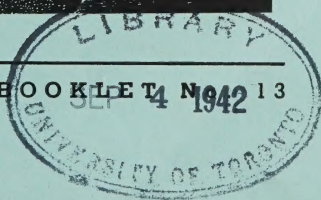
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## **Production Partners**

**A**NNOUNCEMENT of the formation of a Joint Canada-United States War Production Committee was announced in Washington on December 15, 1941. The Committee declared its aim was to bring about the "maximum use of the labour, raw materials and facilities of each country," and the integration of production and resources of each country "directed towards a common program of requirements for the total war effort." The Board was given any power necessary to break down barriers, legislative and administrative, which would impede the free flow of munitions and war supplies between the two countries.

On July 24 the Committee outlined what steps were taken during the first six months of its operation to bring about the meshing of war production of the twin arsenals of democracy. It reported war output had been improved by reducing duplication, revising specifications, arranging quicker exchanges of supplies, breaking transportation bottle-necks, eliminating tariff and other barriers, and promoting an exchange of information on production methods and designs.

### ***Co-operation Gets Results***

It outlined the following methods adopted to boost war production:

Duplication in production has been greatly reduced. An example of this was the concentration of United States production on one type of propeller and of Canadian manufacturers on another. Total production of these propellers was therefore more efficient.



Exchange of designs and information has made it possible in one instance for Canada to avoid costly plant expansion to produce a critical chemical when adequate supplies were obtained from the United States.

Manufacture of types of material common to both countries has been increased. In one case the specifications of a gun being made in the Dominion were altered so that facilities in both Canada and the United States could be used. Greatly increased quantities of the gun were turned out for the United Nations in consequence.

Many materials have been exchanged. When a shortage of materials occurred or was threatened, materials were shipped from one country to the other to tide manufacturing plants over the period of shortage. An example of this is given in the shipment of 500,000 body castings for a certain type of shell and Canadian plants were able to load and ship finished rounds on schedule. This exchange has proved mutually beneficial.

Steel plates and frames for Canadian merchant ship-building were delivered quickly from the United States, following prompt action by the Maritime Commission. As a result, several hundred thousand tons of merchant ships will slide down Canadian ways in 1942. Without the plates, output would have been not more than two-thirds of actual launchings. The United States Navy Department, in turn, was able to get quick delivery from Canada of 30,000 pounds of badly needed optical glass for sights.

### ***The Border Is No Barrier***

So far as war production is concerned the border between the United States and Canada has lost its peacetime significance. Supplies move across this line without red tape and tariffs. Canada, by a series of orders, permits entry, free of duty and taxes, of practically all goods purchased by the Department of Munitions and Supply or its agents. The United States, by executive order, suspended tariffs

on all war supplies imported by government departments. Canada is also modifying its regulations in regard to the movement of goods by truck in bond across Ontario between Michigan and New York to permit free flow of all war materials.

Action of the Committee has helped Canada finance its purchases in the United States by increasing United States purchases of materials in Canada. This method of enabling Canada to meet its serious exchange problem was provided for by the Hyde Park Declaration of April, 1941, and has been placed in effect by the Committee. In recent months the purchase of Canadian munitions by the United States has more than doubled.

### ***War Programs Co-ordinated***

Co-ordination of the war production of the two countries is directed by 10 joint technical sub-committees, which originate and develop programs. They maintain constant touch with production authorities in each country and co-ordinate the work of organizations manufacturing such varied instruments of war as small arms, chemicals, guns, shells, communication equipment, tanks, airplanes, ships and other weapons and supplies. Head of the Canadian Committee is G. K. Sheils, Deputy Minister of the Department of Munitions and Supply. The majority of Canadian membership on the Committee is from the same department. Milo Perkins, Executive Director of the Board of Economic Warfare, is chairman of the United States Section. Sub-committee members are drawn from the Department of Munitions and Supply and from the United States War and Navy Departments, the War Production Board, and the Maritime Commission.

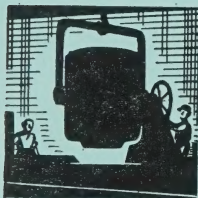
In announcing the results of six months work by the Joint War Production Committee, it was stated that the annual rate of Canadian production in the second quarter of 1942 was nearly three times that of the rate for 1941,

while United States output was nearly four times that of 1941. Even sharper increases in production are called for by present schedules, especially in the United States, where all-out production got underway later than in Canada.

There are three other joint committees of the United States and Canada working on defence, economic and other problems: the Permanent Joint Board on Defence, the Materials Co-ordinating Committee and the Joint Economic Committees.

## **"Great Industrial Achievement"**

UNITED NATIONS' fighters, on land, on sea, and in the air, have reason to be grateful for an industrial miracle that has taken place on Canadian soil during the past three years.



Prior to the war the gun and ordnance industry was non-existent in the Dominion. Canada did not have the special steels and other materials which go into the making of a gun. Nor had it gunsmiths or a tradition of arms manufacture upon which to build. The small Canadian army had received its arms principally from Britain, for the necessary arms could be obtained there more economically than by developing a munitions industry in Canada.

But the war and grim necessity changed the habits of peacetime. After Dunkirk Britain desperately needed every rifle, every gun, that could be found. There was no hope for the Canadian armed forces even in the remote future. In fact, Britain was looking to the largely virgin resources here for arms. And so Canada embarked on a program of arms manufacture calling for an unprecedented expansion of steel-producing facilities. Thousands of Canadian workmen were to be trained and put to work making guns, machine guns, rifles, and other weapons.



## *Steel Shortage Overcome*

First difficulty to be overcome was that of steel and other necessary ingredients. Prior to the war there was one plant in Canada making 15,000 tons of highgrade steel annually that was suitable for gun manufacture. The capacity of the plant was doubled, redoubled and doubled again, until it was turning out gun steel at the rate of 200,000 tons a year. Other capacities were developed. Now Canadian plants are turning out tremendous quantities of this steel. Current requirements are about 400,000 tons a year. Production of other essential ingredients, such as malleable iron castings and drop forgings have been increased to meet the need.

There were other barriers to be hurdled before guns could be made. One of the most serious of these was a dearth of skilled labour. Great mechanical ingenuity and specialized skill is needed to turn out guns. Although men and women have been trained as rapidly as possible the need for more and more workers is still critical. Technical schools, colleges and industrial training schools have all helped in training workers. Women have been brought into industry to replace men. They have been given training to fit them for their jobs and they are proving very skilful and conscientious. Though time has not permitted their conversion into skilled mechanics, they have been made very proficient at single operations and they have been trained in a wide variety of mechanical jobs. One plant making the famous Bren machine gun employed 2,400 persons in March, 1941, of whom less than five percent were women. Now there are about 12,000 workers in this plant, the majority of whom are women. The same story can be told of many similar plants throughout the country.

Another serious bottleneck which faced the industry and has been overcome, at least to a large degree, is the shortage of machine tools. Prior to the war all machine tools were imported from the United States. The Canadian

industry has been building up its own machine tool industry with a large measure of success, but is still dependent upon the United States for many of its machine tools. The vast American arms program has diminished the available supply. Canada, however, is in a fair way to meet much of its own requirements. In May this year, for example, 970 new machine tools were needed. Of these 500 were made in Canada. In the last six months the Dominion has been able to ship about 1,000 Canadian-made single-purpose machine tools, and shipments of these to the United States and Britain will increase.

### ***Breaking Bottlenecks***

Industry has shown great ingenuity in overcoming mechanical bottlenecks, and technicians from the United States are studying methods evolved in Canadian gun plants.

Despite the increase in machine tool manufacture, large Canadian plants alone cannot meet the vastly increased production requirements and the Department of Munitions and Supply is turning to the small machine shops throughout the country for aid. Thousands of small shops have been given sub-contracts. To expand and administer this phase of its work, the Munitions Department has established an Industry and Subcontract Branch.

By using the capacities of these small shops the realization of the ambitious gun production program will be facilitated. From Canadian gun plants will flow many types of guns and ordnance to the United Nations.

### ***Arms For Free Men***

Already the enemy has felt the shock of Canadian-made guns—in China, in Russia and other theatres of war. Canadian soldiers in Britain are equipped with Canadian-made guns, as are fighter planes in England and the ships of the navy.

There are 30 types of guns being produced in Canada, ranging from service rifles and light machine guns to naval guns, 25-pounder field guns and heavy anti-aircraft guns.

Here are a few weapons and what they can do:

The Bren machine gun is a light weapon for infantry use and standard to all British forces. It is the equal of any similar type of machine gun in the world. The workmanship of the 12,000 Canadian workers producing this gun is as good if not better than that in any machine gun plant in the world. In one year and a quarter the manufacturing cost of the gun has been reduced from \$391 to \$192.

When the fighter planes of the R.A.F. clawed the Luftwaffe out of the skies over Britain it was due largely to the vast superiority the British planes had in fire-power. The guns used were .303 Browning machine guns, a vicious light machine gun, which can saw the wing off a plane or break it up in the air. Used in batteries in aircraft they have even sunk large merchant ships. Three types of this gun are being made in Canada. From November 15, 1941, to April 25, 1942, its cost has been reduced from \$403 to \$220.

The Boys anti-tank rifle, which can put light armoured vehicles out of action with its .55-inch projectile, has passed through the initial production stage and is now in quantity production.

### ***More Guns For Less***

The modern equivalent of the Lee-Enfield rifle used in the First Great War is being made at a government arsenal, and production has jumped to high levels. In seven months the cost of the rifle has been reduced from \$97.43 to \$47.43. Production is increasing steadily.

The Sten machine carbine is a light, simple weapon, designed in the United Kingdom to meet requirements for large numbers of "Tommy" guns. The gun is now being made in Canada.

The 25-pounder gun has replaced the 18-pounder weapon of the First Great War. Flexible and highly mobile, it is used by all British forces and has often saved the day



for British arms in this war. It is now made in a large Canadian factory, the ground for which was broken just before the war began.

The famous 40mm. Bofors anti-aircraft gun, a type used by most of the major armies of the world, including the Axis forces, is made at a Canadian plant which in peace time made elevators.

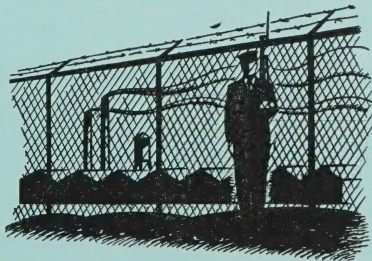
The standard 3.7-inch anti-aircraft gun, which has seen a great deal of action in many theatres of war, is being made by a large electrical equipment manufacturer.

Two anti-tank guns are being turned out by two heavy industries with efficiency and speed.

A number of naval guns are made, as well as a wide variety of gun carriages and mountings. Bomb throwers, trench mortar bombs and .5 machine guns are coming from the production lines of industrial plants without previous arms production experience.

A sub-committee of the House of Commons on the subject of gun production stated:

*"When one considers that the art of manufacturing guns and ordnance is a new art in Canada and that the achievements and success in that art have been tremendous, one must come to the conclusion that the manufacture of guns in this country is one of the great industrial achievements of all times. Great credit for this reflects upon the ingenuity and willingness of Canadian men and women".*



## Sea Strength Grows

**M**ORE than 100 vessels will be added to the Royal Canadian Navy this year, increasing the force to over 500 ships. At the present time the R.C.N. has well over 400 ships in operation and a personnel of 41,000 men.



Naval Minister Macdonald, in announcing these figures, stated that naval ship production in Canada is keeping pace with the supply of trained men and that an even balance is being maintained between ships and men.

The Canadian Navy is filling a pressing need of the United Nations for anti-submarine vessels. The United Nations are dependent upon these types of vessels—destroyers, corvettes and patrol boats—to combat the steadily growing fleets of Axis undersea craft.

Ships of the R.C.N. are in the Western Atlantic helping the Royal Navy and the United States Navy off the shores of United States. The outcome of this battle will have an important bearing on the course of the whole war.

U-Boats are taking an increasingly heavy toll of United Nations shipping in this area, postponing the time when the allied forces will be able to concentrate sufficient strength for a large-scale offensive. The creation of a second front and the re-inforcement of United Nations armies in every war area are dependent upon shipping, and there has been no decline in the critical losses of merchant ships.

Axis torpedoes have struck directly at Canada. Merchant ships have again been sunk in the St. Lawrence. The object of Axis strategy in this case is believed to be the diversion of anti-submarine vessels northward to the St. Lawrence area. The great Axis U-boat effort is to cut the Atlantic lifeline of the allies; weakening the protective forces in the Atlantic would help the Axis in this aim.

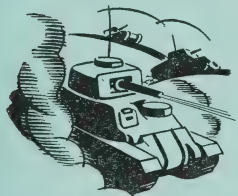
Canadian-made merchant ships have already been sunk by torpedoes. One of the first merchant vessels to come from Canadian shipyards has been sunk in the Caribbean. Another limped into port after being torpedoed and pursued off the Pacific Coast of Canada.

Vessels are being commissioned regularly for the R.C.N. In a British shipyard another Tribal class destroyer has been launched for the Canadian Navy. This is the third of this type of vessel launched in Britain for Canada and all will soon be commissioned for service. Two more Tribal destroyers are being built at a Canadian shipyard for the R.C.N.

The commissioning of these fast and powerful craft will substantially increase the striking power of the Navy and give it a weapon which can be used for offensive as well as defensive strategy.

## Emphasis On Offence

**T**ROOPS FROM the Canadian Army are joining forces with the United States Army to form the First Special Service Force. This combined Canada-United States force extends the co-operation of Canada and United States in military matters and will provide the nucleus of a force for unified operation in any defensive or offensive action.



The First Special Service Force, now in training at Helena, Montana, is being given instruction in the use of parachutes, in marine landings, and mountain and desert warfare. Head of the Force is an American officer, and the second-in-command a Canadian.

With emphasis on youth and fitness, the combined force will wear a special uniform without any distinctive Canadian or American insignia. Stiff physical and other requirements have been set for membership because of the



difficult tasks which the Force will be called upon to perform.

### ***Canadian Paratroops***

Formation of this body follows closely the establishment of commando and paratroop training for the Canadian Army. One battalion of paratroops is being formed. Instructors are being sent to the United States paratroop school at Fort Benning, Georgia. They will return when their course is completed to instruct the Canadian battalion in this most modern of all military arts.

Plans are being made with the Royal Canadian Air Force to provide the necessary co-operation for the training of the paratroop battalion.

The latest developments in commando training are also being taught Canadian troops. A senior Canadian officer has been brought back from Britain to conduct a school for commando instructors at a West Coast centre. Here the men selected will be given a rigorous course of training. They will be hardened physically by running everywhere instead of walking or trotting. They will scale walls, cut through barbed wire, swim, surmount obstacles and meet every type of difficulty they would encounter in actual operations. They will be taught to use specialized weapons and the tactics of the commandos. When they have completed the strenuous course they will be sent back to their units to conduct instructional schools.

### ***Triple-Threat Tactics***

Combined training with the Air Force and Navy is also being given at this same Pacific Coast centre. One battalion is sent there at a time to familiarize it with combined Army, Navy and Air Force operations. As many units as possible are being given this type of training, particularly in connection with the work of the Pacific Command.

The Canadian Army is closely co-ordinating its training methods with those of Britain and the United States. Training of Canadian troops is integrated with training in Britain

and the two-way exchange of officers which has been functioning for the past two years is being broadened.

There are at present 282 officers and 1,500 non-commissioned officers from the Canadian Army overseas now assisting with training in Canada. About 120 British officers have also come to Canada from time to time to assist in training Canadian soldiers.

The output of officers' training schools is being increased from 8,000 to 12,000 annually to meet the requirements of the rapidly growing Canadian Army.

There is a junior war staff college in Canada where young officers who have proved themselves are trained for staff positions. Ninety percent of the officers now in the school are men who have been sent back from the Canadian Army overseas for this training.

### ***British Officers in Canada***

British officers are also attending the junior war staff college as well as other courses in the Dominion, such as the company commanders course, the senior officers' course, the small arms training centre, the driving and maintenance school, the coast defence and anti-aircraft school, and the Canadian armoured corps training centres. A British officer, in turn, heads the group of three armoured corps training centres.

The Army's training capacity has increased tremendously to cope with an increase in strength in less than three years from 3,300 to between 330,000 and 350,000 men.

There are 41 basic training centres and 25 advanced training centres in the Dominion. They include a wide variety of establishments such as a training centre for junior non-commissioned officers and potential N.C.O.'s, a school of administration, an N.C.O. instruction school at every advanced training centre, two army trade schools with total capacity of 3,500 men a month, training schools for battle training, bush and mountain warfare, chemical warfare, the Women's Army and cookery.

Training of troops for overseas service will be done in Canada as far as possible, so that Canadian troops when sent abroad will be prepared for actual combat. The training of every unit earmarked for Canadian defence will be carried to completion, so far as that is possible.

## Canadians On Air Front

**T**HE growing might of the R.C.A.F. in Britain is playing an important part in the relentless assault of allied air forces on Germany. Canadian airmen in large numbers have



been in the raids which have added the names of Duisburg, Hamburg and Saarbrücken to the list of already devastated industrial cities in Germany, such as Luebeck, Rostock, Augsburg, Cologne, Essen, Bremen, Emden and Wilhelms-haven.

There will be no respite, no rest for Germany from these constantly growing attacks, the chief of the R.A.F. bomber command has promised. Britain and the United States are building giant four-motored bombers for the air offensive and Canadian air schools are providing an important portion of the aircrew.

Soon the Royal Canadian Air Force will go into action as a single bomber group, a homogeneous formation which will make an important contribution to the air offensive.

Such a group is now being established. R.C.A.F. officers are understudying R.A.F. officers with the object of replacing them when the group is ready to operate as a self-sufficient unit.

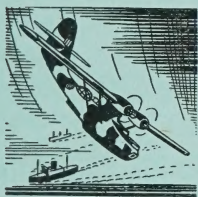
All-Canadian fighter stations are being formed, each to be composed of several R.C.A.F. squadrons. These stations, however, will operate within the framework of the R.A.F. group and for tactical reasons will not have the same independence as the R.C.A.F. bomber group.



While R.C.A.F. headquarters overseas will have a greater control over R.C.A.F. personnel, both the bomber group and fighter stations will continue to operate under the strategical and tactical direction of the R.A.F.

## Wings Over the Ocean

**T**HE first PBV-5 amphibian plane to be made in Canada has been launched and test-flown at an East Coast airplane factory.



The Consolidated PBV-5 has been called the Catalina by the British, who are using it extensively for patrol work over the oceans of the world. As such it has been made famous by its exploits. It was a Catalina which spotted the fleeing German battleship Bismarck and prevented it from escaping through the drag-net of British planes and ships. The Canadian squadron in Ceylon is using the Catalina to good effect. It was one of these aircraft which spotted the Japanese fleet off Colombo and gave the defenses of the naval base time to get a protective air fleet into the air before the raiding planes made their attack. As a result 27 Japanese planes were shot down.

The Catalina is primarily a patrol aircraft with an extensive range. Its maximum cruising range would permit it to fly from Halifax to Vancouver and back to Winnipeg without refuelling.

Cost of the aircraft is close to a quarter of a million dollars. They are being made at a Pacific Coast factory, which employs nearly 2,500 men and women and within a few months an Eastern Canadian factory will go into production. The aircraft will be a valuable addition to the armaments being turned out by Canadian factories for the United Nations.



Next month the Director of Public Information will issue a special illustrated booklet marking the third anniversary of Canada's entry into the war. This will replace the September edition of "Canada at War".



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